

Certificate of Test

NCT CO., LTD.

211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Republic of Korea
(Tel: +82-31-323-6070 / Fax: +82-31-323-6071)

Report No.:
NW2310-F006-1

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**1. Client**

- Name : MAX K. Korea Inc.
- Address : 608, Baeksang Star Tower 2, 165, Gasan digital 2-ro, Geumcheon-gu, Seoul, Republic of Korea
- Date of Receipt : 2023-08-09

2. Use of Report : FCC Certification**3. Test Sample**

- Description / Model : Smart Pet Health care Repeater / PbG-S2
- FCC ID : 2BDB6-PBG-S2

4. Place of Test : ☒ Fixed test ☐ Field test

(Address: 211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Republic of Korea)

5. Date of Test : 2023-08-25 ~ 2023-10-13**6. Test method used : FCC Part 1.1310****7. Testing Environment :**

- Temperature: (25 ± 5) °C, Humidity: Less than 75 % R.H.
- * Unless specified otherwise in the individual methods, the tests were conducted on ambient conditions.

8. Test Results : Refer to the test results

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This Test Report cannot be reproduced, except in full
This test report is not related to KOLAS recognition and RRA designation.

Affirmation	Tested by Jungi, Shin (signature)	Technical Manager Il-shin, Kim (signature)
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Nov 03, 2023

NCT CO., LTD.



Contact us at report@nct.re.kr to confirm the authenticity of this report

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1. General Information's

1.1 Test Performed

Laboratory : NCT Co., Ltd.
Address : 211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Korea
Telephone : +82-31-323-6070
Facsimile : +82-31-323-6071
FCC Designation No. : KR0166
FCC Registration Number : 409631

2. Information's about Test Item

2.1 Applicant Information

Company name : MAX K. Korea Inc.
Address : 608, Baeksang Star Tower 2, 165, Gasan digital 2-ro, Geumcheon-gu,
Seoul, Republic of Korea
Telephone / Facsimile : +82-10-2547-9361 / +82-2-864-9319

2.2 Equipment Under Test (EUT) description

Test item particulars : Smart Pet Health care Repeater
Model and/or type reference : PbG-S2
Additional model name : -
Serial number : Prototype
Antenna type and gain : PCB antenna with Max gain: 3.42 dBi
Date (s) of performance of tests: : 2023-08-25 ~ 2023-10-13
Date of receipt of test item : 2023-08-09
EUT condition : Pre-production, not damaged
EUT Power Source : DC 5.0 V
Firmware version : 1.0
Hardware version : 1.0
Test software name(version) : Simplicity Studio V5.7.1.0

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3. Test Report

3.1 Test Report Version

Test Report No.	Date	Description
NW2310-F006	2023-10-27	Initial issue
NW2310-F006-1	2023-11-03	Modified the FCC ID and SAR exclusion analysis method

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3.2 SAR Test Exclusion Considerations for FCC

3.2.1 Standalone SAR test exclusion

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition(s), listed below, is (are) satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.²⁸ The minimum test separation distance defined in 4.1 f) is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander. To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified, typically in the SAR measurement or SAR analysis report, by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting are required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops and tablets, etc.

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot [\sqrt{f(\text{GHz})}]$$
$$\leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Modulation		Frequency (MHz)	Min. Test separation distance	Measured Maximum Average power	Tune-up tolerance	Max. Power with tune-up tolerance		Standalone SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance ≤ 50 mm	Limit	Result
			(mm)	(dBm)	(dB)	(dBm)	(mW)			
2.4GHz	GFSK	2402	15.00	1.44	± 1.00	2.44	1.75	0.1812	3.00	PASS
		2441		3.33		4.33	2.71	0.2823	3.00	PASS
		2480		5.04		6.04	4.02	0.4218	3.00	PASS
	$\pi/4$ DQPSK	2402	15.00	3.57	± 1.00	4.57	2.86	0.2959	3.00	PASS
		2441		5.49		6.49	4.46	0.4642	3.00	PASS
		2480		7.33		8.33	6.81	0.7147	3.00	PASS
	8DPSK	2402	15.00	4.10	± 1.00	5.10	3.24	0.3343	3.00	PASS
		2441		5.91		6.91	4.91	0.5113	3.00	PASS
		2480		7.78		8.78	7.55	0.7927	3.00	PASS
	BT LE	2402	15.00	1.58	± 1.00	2.58	1.81	0.1872	3.00	PASS
		2442		3.58		4.58	2.87	0.2991	3.00	PASS
		2480		5.42		6.42	4.39	0.4604	3.00	PASS
	802.11n_HT40	2422	15.00	10.96	± 1.00	11.96	15.70	1.6293	3.00	PASS
		2437		11.06		12.06	16.07	1.6724	3.00	PASS
		2452		11.67		12.67	18.49	1.9305	3.00	PASS

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3.2.2 Simultaneous transmission SAR test exclusion

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. When the sum is greater than the SAR limit, the SAR to peak location separation ratio procedures described below may be applied to determine if simultaneous transmission SAR test exclusion applies. For the test exclusion to apply, the maximum output power, duty factor, and other applicable parameters used in the standalone SAR tests, must be the same or more conservative than those required for simultaneous transmission. When the maximum output power used for standalone operations is reduced in an operating mode or exposure condition during simultaneous transmission, often due to SAR or other implementation requirements, the standalone SAR tested at the higher output power may be applied to determine simultaneous transmission SAR test exclusion. Alternatively, additional standalone SAR at the reduced maximum output power applied for simultaneous transmission may be performed to determine simultaneous transmission SAR test exclusion, according to the sum of 1-g SAR or SAR to peak location separation ratio procedures. The power level of the standalone SAR used to qualify for SAR test exclusion must be clearly explained in the SAR report. When simultaneous transmission SAR test exclusion does not apply, enlarged zoom scan measurements must be performed at the maximum output power required in the power reduction modes for simultaneous transmission, within the tune-up tolerance requirements of all transmitters, for applying the volume scan post-processing procedures

b) When an antenna qualifies for the standalone SAR test exclusion of 4.3.1 and also transmits simultaneously with other antennas, the standalone SAR value must be estimated according to the following to determine the simultaneous transmission SAR test exclusion criteria:

- 1) $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})/x}] \text{ W/kg}$, for test separation distances $\leq 50 \text{ mm}$;
where $x = 7.5$ for 1-g SAR and $x = 18.75$ for 10-g SAR.

Modulation	Frequency (MHz)	Min. Test separation distance	Max. Power with tune-up tolerance		Simultaneous transmission SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance $\leq 50 \text{ mm}$ ($x=7.5$)	Limit	Result
		(mm)	(dBm)	(mW)			
Bluetooth	2480	15.00	8.78	7.55	0.3631	0.40	PASS
WLAN	2452	15.00	12.67	18.49			